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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/917,025	07/27/2001	William Croasdale	RAY-122J	9659

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Iandiorio & Teska
260 Bear Hill Road
Waltham, MA 02451-1018

EXAMINER

YE, LIN

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 12/23/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/917,025

Applicant(s)

CROASDALE, WILLIAM

Examiner

Lin Ye

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6-7, 10, 12, 16-18, 20, 24-28 and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grober U.S. Publication 2003/0007795 in view of Sosoya JP. Publication 06-141211.

Referring to claim 1, the Grober reference discloses in Figures 1-2, a photonic buoy (buoy incorporating camera system) comprising: a lengthy hull including a ballast portion (motion reduction system 11) which resides below the waterline and a top portion which is disposed above the waterline (See page 2, [0017]); an optical bench (the lens of camera 5) at the top portion of the hull configured to provide view of the horizon (See page 2, [0022]). However, the reference only mention the camera 5 can zoom, pan and tilt for change field of view of camera (See page 2, [0023]), but does not explicitly show the optical bench can be configured to provide a panoramic view of horizon.

The Sosoya reference discloses in figures 2-3, an optical bench (2) at top portion of the antenna pillar (16) configured to provide a panoramic view of the horizon (the omni direction 360 degrees, see detailed description on [0017]). The Sosoya reference is evidence that one of ordinary skill in the art at the time to see more advantages for the camera system including

a optic bench to acquire omnidirectional image at one time, so resultant the omnidirectional image is a real-time image without employing any mechanical means. For that reason, it would have been obvious to see the buoy having the optical bench configured to provide a panoramic view of horizon disclosed by Grober.

The Grober reference also only shows the buoy including a transmitter (7) extending from the optical bench for wireless transmitting video signals to a remote location, but it does not explicitly show a transmission cable for transmitting video signals to a remote location.

The Sosoya reference discloses in figures 2-3, a transmission cable extending from the optical bench (2) for transmitting video signals to a remote location (10). The Sosoya reference is evidence that one of ordinary skill in the art at the time to see more advantages for the camera system using a cable to transmission video signals to remote location instead of wireless transmitter so that the signal can be more clear and less noise without interference from outside environment. For that reason, it would have been obvious to see the buoy having a transmission cable for transmitting video signals to a remote location disclosed by Grober.

Referring to claim 2, the Sosoya reference includes a conical mirror inside the top portion of the hull (antenna pillar 16) surrounded by a transparent wall (Figure 3 clearly shows the wall is transparent, the light of image from outside A, B, C can directly through the wall to the conical mirror 12a) and a vertically oriented imager (CCD 14) aimed at the conical mirror (12a).

Referring to claim 3, the Grober and Sosoya references do not explicitly state the conical mirror is also conical prism. Official Notice is taken that both the concept and the

Art Unit: 2612

advantages of providing the optical bench can either use conical mirror or conical prism to provide a panoramic view of the horizon is well known and expected in the art. It would have been obvious to have more flexible designing options to choice using conical prism or conical mirror to provide omnidirectional image on the optical bench disclosed by Grober.

Referring to claim 4 (depends on claims 2 or 3), the Sosoya reference discloses the imager (14) is a CCD camera (See detailed description on [0017]).

Referring to claim 6, the Sosoya reference discloses a sensor (mixer 8) in the hull that detects the attitude to provide orientation information of the video imagery as shown in Figure 5(B) (See [0022]).

Referring to claim 7 (depends on claims 2 or 3), the Grober and Sosoya references do not explicitly states the transmission cable includes optical fibers. Official Notice is taken that both the concept and the advantages of providing the optical fibers in the cable to transmitting the video image to remote location is well known and expected in the art. It would have been obvious to have optical fibers included in the transmission cable in Sosoya as this transmission media is known to provide to high speed and capacity of transmission rate.

Referring to claim 10, the Grober reference discloses the ballast portion (motion reduction system 11) includes a weight disposed therein as shown in Figures 1-2.

Referring to claim 12, the Grober and Sosoya reference discloses all subject matter as discussed with respected to same comment as with claim 1, and Grober reference discloses a workstation remote from the hull, responsive to the optical bench, and including a display

(18) and image stabilization circuitry (17) for presenting a composite image of the horizon on the display (See [0027]).

Referring to claim 16, the Grober and Sosoya reference discloses all subject matter as discussed with respected to same comment as with claim 2.

Referring to claim 17, the Grober and Sosoya reference discloses all subject matter as discussed with respected to same comment as with claim 3.

Referring to claim 18 (depends on claims 16 or 17), the Grober and Sosoya reference discloses all subject matter as discussed with respected to same comment as with claim 4.

Referring to claim 20, the Grober and Sosoya reference discloses all subject matter as discussed with respected to same comment as with claim 6.

Referring to claim 21 (depends on claims 16 or 17), the Grober and Sosoya reference discloses all subject matter as discussed with respected to same comment as with claim 7.

Referring to claim 24, the Grober and Sosoya reference discloses all subject matter as discussed with respected to same comment as with claim 10.

Referring to claims 25-28 and 30-31, the Grober and Sosoya reference discloses all subject matter as discussed with respected to same comment as with claims 1-4 and 6-7.

Referring to claims 32, the Grober and Sosoya reference discloses all subject matter as discussed with respected to same comment as with claims 1-2.

Referring to claims 33, the Grober and Sosoya reference discloses all subject matter as discussed with respected to same comment as with claims 1 and 3.

3. Claims 5, 19 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grober U.S. Publication 2003/0007795 in view of Sosoya JP. Publication 06-141211 and Cheng et al. U.S. Patent 5,018,852.

Referring to claim 5 (depends on claims 2 or 3), the Grober and Sosoya references disclose all subject matter as discussed in respected claim 1, except the references do not explicitly states the CCD imager is an infrared camera.

The Cheng reference discloses in Figure 1, a CCD camera can be used for various types for visible object senses or an infrared camera for infrared object scenes (See Col. 3, lines 1-5). The Cheng reference is evidence that one of ordinary skill in the art at the time to see more advantages for the CCD camera system is using for visible object scenes or infrared camera so that user has more flexible options to choice capture any object scenes including visible or infrared object scenes. For that reason, it would have been obvious to see the buoy having an infrared camera disclosed by Grober.

Referring to claim 19 (depends on claims 16 or 17), the Grober , Sosoya and Cheng references disclose all subject matter as discussed with respected to same comment as with claim 5.

Referring to claim 29, the Grober, Sosoya and Cheng references disclose all subject matter as discussed with respected to same comment as with claim 5.

Art Unit: 2612

4. Claims 8-9, 11, 13-14 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grober U.S. Publication 2003/0007795 in view of Sosoya JP. Publication 06-141211 and Miller U.S. Patent 4,794,575.

Referring to claims 8-9 and 22-23, the Grober and Sosoya references disclose all subject matter as discussed in respected claims 1 and 12, and Grober reference also states the stabilized camera head (4) and camera (5) are waterproof or contained in a weather resistant housing (See Page 2, [0020] and [0022]), except the references do not explicitly states the hull of buoy has a self scuttling plug therein and buoy can be launched by a submarine.

The Miller reference discloses in Figures 1-2, a buoy (10) is launched from the submarine via the after signal ejector, buoyantly ascends to the surface, and then transmits sea surface information back to the submarine via the data link. The buoy (10) includes a self scuttling plug (dissolving plugs 16, see Figure 5 and Col. 5, lines 62-68). The buoy has a diameter compatible with a launcher (ejector 50, see Col. 5, lines 17-31) as shown in Figure 2. The Miller reference is evidence that one of ordinary skill in the art at the time to see more advantages for the submarine can launch a buoy in order to determine sea surface conditions and the buoy have a self scuttling plug to provide its sink in order to easily pull back the buoy to the submarine. For that reason, it would have been obvious to see the hull of buoy has a self scuttling plug therein and the buoy can be launched by a submarine disclosed by Grober.

Referring to claims 11 and 13-14, the Grober and Sosoya references disclose all subject matter as discussed in respected claims 1 and 12, except the references do not explicitly states the ballast portion of the hull includes a first spool of transmission cable and the

Art Unit: 2612

workstation is located on board a submarine which includes a second spool of the transmission cable.

The Miller reference discloses in Figures 1-2, a ballast portion of the hull (10) includes a first spool of transmission cable (spool 32) and a second spool of transmission cable (spool 34) which connect inside of workstation of submarine (See Col. 4, lines 50-67). The Miller reference is evidence that one of ordinary skill in the art at the time to see more advantages for having spools of transmission cable to extend or shear the length of cable in order launching or scuttling buoy and transmitting data easily. For that reason, it would have been obvious to see the buoy including the spool of the transmission cable disclosed by Grober.

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grober U.S. Publication 2003/0007795 in view of Sosoya JP. Publication 06-141211 and Gove U.S. Patent 5,973,733.

Referring to claim 15, the Grober and Sosoya references disclose all subject matter as discussed in respected claim 12, except the references do not explicitly states the image stabilization circuitry (control panel 17) which includes frame rate image processing software and hardware for stabilization instead that remotely controlling mechanical or optical ways for stabilization.

The Gove reference discloses in Figures 1-2, a video camera includes an image stabilization circuitry (28). The stabilization circuitry includes frame rate image processing software (algorithms 52) and hardware (processor 50) for stabilization (See Col. 3, lines 37-53). The Gove reference is evidence that one of ordinary skill in the art at the time to see the camera stabilization circuitry having frame rate image processing software and hardware for

Art Unit: 2612

stabilization so that providing a relatively lower cost solution than the mechanical optical ways for stabilization (See Col. 1, lines 36-40 and Col. 2, lines 22-25). For that reason, it would have been obvious to see the image stabilization circuitry (control panel 17) which includes frame rate image processing software and hardware for stabilization disclosed by Grober.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Lin Ye** whose telephone number is **(703) 305-3250**. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Wendy R Garber** can be reached on **(703) 305-4929**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC. 20231

Or faxed to:

(703) 872-9306


Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal drive,
Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is **(703) 306-0377**.

Application/Control Number: 09/917,025
Art Unit: 2612

Page 10

Lin Ye
December 15, 2003


WENDY R. GARBER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600